INDEX TO AUTHORS

A

Adamik, E. R. See *Saroff, Rosenthal, Adamik, Hages, and Scheraga,* 255

Adelberg, Edward A., and **Umbarger, H. Edwin.** Isoleucine and valine metabolism in *Escherichia coli.* V. α-Ketoisovaleric acid accumulation, 475

—. See *Miller and Adelberg,* 691

Allen, C. Freeman. See *Cason and Allen,* 449

—. See *Cason, Sumrell, Allen, Gillies, and Elberg,* 435

Anthony, W. L. See *Beher, Marfey, Anthony, and Gaebler,* 521

Appleton, Harold D., La Du, Bert N., Jr., Levy, Betty B., Steele, J. Murray, and **Brodie, Bernard B.** A chemical method for the determination of free choline in plasma, 803

Armstrong, Marvin D. The utilization of L- and D-phenylalanine by the rat, 839

Artom, Camillo. Rôle of choline in the oxidation of fatty acids by the liver, 101

Ashwell, Gilbert. See *Hickman and Ashwell,* 651

Austin, Elaine. See *Klein,* 725

Axelrod, Leonard R. The separation and identification of mixtures of C_{21} and C_{19} steroids by paper chromatography, 173

B

Barker, Wiley F. See *Zabin and Barker,* 633

Beher, W. T., Marfey, S. P., Anthony, W. L., and **Gaebler, O. H.** Studies of antimetabolites. IV. The metabolism of 3-acetylpyridine *in vitro,* 521

Beinert, Helmut. Studies on the fatty acid oxidizing system of animal tissues. II. β-Ketoacyl derivatives of coenzyme A, 575

Bellin, Stuart A. See *Steenbock and Bellin,* 985

Berg, Paul. A study of formate utilization in pigeon liver extract, 145

Bernstein, I. A. Fermentation of ribose-C^{14} by *Lactobacillus pentosus,* 309

—. Synthesis of ribose by the chick, 317

Bird, H. R. See *Machlin, Pearson, Denton, and Bird,* 213

Birnbaum, Sanford M. See *Izumiya, Fu, Birnbaum, and Greenstein,* 221

Bodansky, Oscar. Measurement of enzyme activity at any stage of a reaction, 731

Bonner, David M. See *Jakoby and Bonner,* 699, 709

Borek, Blanche Ann, and **Waelsch, Heinrich.** The enzymatic degradation of histidine, 459

Bornstein, J. Insulin-reversible inhibition of glucose utilization by serum lipoprotein fractions, 513

— and **Park, C. R.** Inhibition of glucose uptake by the serum of diabetic rats, 503

Boyle, Ardithanne. See *Schepartz,* 185

Bregoff, Herta M., Roberts, Eugene, and **Delwiche, C. C.** Paper chromatography of quaternary ammonium bases and related compounds, 565

Brodie, Bernard B. See *Appleton, La Du, Levy, Steele, and Brodie,* 803

Brown, Joshua R. C. See *Green, Brown, and Mommaerts,* 493

Bush, Ian E., and **Sandberg, Avery A.** Adrenocortical hormones in human plasma, 783

Byerrum, Richard U., and **Wing, Richard E.** The rôle of choline in some metabolic reactions of *Nicotiana rustica,* 637

Byron, J. E., Wood, W. A., and **Treadwell, C. R.** Cholesterol esterases. V. A cholesterol esterase of rat liver, 483

C

Cason, James, and **Allen, C. Freeman.** Synthesis and properties of L(+)-2,4-dimethyl-2-dodecenoic acid, 449

—, **Sumrell, Gene, Allen, C. Freeman, Gillies, George A.,** and **Elberg, Sanford.** Certain characteristics of the fatty acids from the lipides of the tubercle bacillus, 435

Chaikoff, I. L. See *Chen, Chapman, and Chaikoff,* 383

Chapman, D. D. See *Chen, Chapman, and Chaikoff,* 383

Chen, R. W., Chapman, D. D., and **Chaikoff, I. L.** Acetoacetate conversion to fatty acids in liver: the rôle of insulin and the nutritional state of the animal, 383

Ciotti, Margaret M. See *Kaplan, Colowick, Neufeld, and Ciotti,* 17

—. See *Kaplan, Colowick, Zatman, and Ciotti,* 31

Clark, W. Mansfield. See *Rosenberg and Clark,* 617

Clarke, Edith. See *Koshland and Clarke,* 917

Cohn, Waldo E. See *Volkin and Cohn,* 767

Colowick, Sidney P. See *Kaplan, Colowick, and Neufeld,* 1

—. See *Kaplan, Colowick, Neufeld, and Ciotti,* 17

—. See *Kaplan, Colowick, Zatman, and Ciotti,* 31

D

Davidson, Eugene A. See *Meyer, Linker, Davidson, and Weissmann,* 611

Deatherage, Fred E. See *Paulson and Deatherage,* 909

Delwiche, C. C. See *Bregoff, Roberts, and Delwiche,* 565

Deming, Nancy P. See *Porter, Deming, Wright, and Scott,* 883

Denton, C. A. See *Machlin, Pearson, Denton, and Bird,* 213

Deutsch, Lee. See *Schjeide and Deutsch,* 245

DiLuzio, N. R., and **Zilversmit, D. B.** The effect of choline on phospholipide synthesis in dog liver slices, 867

Dobriner, Konrad. See *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner,* 87

Dobson, Marie Mollomo. See *Talalay and Dobson,* 823

Dorfman, Ralph I. See *Ungar and Dorfman,* 125

Dorner, Robert W., and **Knight, C. A.** The preparation and properties of some plant virus nucleic acids, 959

Dunn, Doris F. See *Wenner, Dunn, and Weinhouse,* 409

E

Edmondson, Page R., and **Schwartz, Samuel.** Studies of the uroporphyrins. III. An improved method for the decarboxylation of uroporphyrin, 605

Eggman, Luther, Singer, S. J., and **Wildman, Sam G.** The proteins of green leaves. V. A cytoplasmic nucleoprotein from spinach and tobacco leaves, 969

Elberg, Sanford. See *Cason, Sumrell, Allen, Gillies, and Elberg,* 435

F

Fawcett, D. M., and **Kirkwood, S.** The synthesis of organically bound iodine by cell-free preparations of thyroid tissue, 795

Fiedler, Hildegard. See *Wood and Fiedler,* 231

Fleisher, Gerard A. Peptidases in human blood. I. The hydrolysis of glycylglycine and glycyl-L-leucine by normal serum, 925

Fraser, Dean, and **Jerrel, Elizabeth A.** The amino acid composition of T_3 bacteriophage, 291

Fresco, Jacques R., and **Marshak, Alfred.** On the biosynthesis of nucleic acids in the livers of adult mice, 585

Frohman, Charles E., and **Orten, James M.** The fluorometric determination of polycarboxylic acids following chromatography, 717
Fu, Shou-Cheng J. See *Izumiya, Fu, Birnbaum, and Greenstein*, 221

G

Gaebler, O. H. See *Beher, Marfey, Anthony, and Gaebler*, 521
Geyer, R. P., Meadows, Mary F., Marshall, Linda D., and **Gongaware, Mary S.** The influence of sodium, potassium, and lithium on fatty acid metabolism, 81
Gillies, George A. See *Cason, Sumrell, Allen, Gillies, and Elberg*, 435
Gladner, Jules A., and **Neurath, Hans.** Carboxyl terminal groups of proteolytic enzymes. I. The activation of chymotrypsinogen to α-chymotrypsin, 345
Goldstein, Madeline. See *Axelrod*, 173
Gongaware, Mary S. See *Geyer, Meadows, Marshall, and Gongaware*, 81
Goplerud, Norma. See *Fleisher*, 925
Green, Irving, Brown, Joshua R. C., and **Mommaerts, W. F. H. M.** Adenosinetriphosphatase systems of muscle. II. Identification of the reaction products, 493
Green, N. Michael. Competition among trypsin inhibitors, 535
Greenstein, Jesse P. See *Izumiya, Fu, Birnbaum, and Greenstein*, 221
Gurin, Samuel. See *Van Baalen and Gurin*, 303

H

Hagerman, Dwain D. See *Villee and Hagerman*, 873
Hages, N. See *Saroff, Rosenthal, Adamik, Hages, and Scheraga*, 255
Haskins, Francis A. See *Tissieres, Mitchell, and Haskins*, 423
Hickman, Jean, and **Ashwell, Gilbert.** Effect of irradiation by x-ray upon anaerobic glycolysis in spleen homogenates, 651
Hirs, C. H. W. A chromatographic investigation of chymotrypsinogen α, 93
Hofmann, Klaus, and **Sax, Sylvan M.** The chemical nature of the fatty acids of *Lactobacillus casei*, 55
Horecker, B. L., Smyrniotis, P. Z., and **Klenow, Hans.** The formation of sedoheptulose phosphate from pentose phosphate, 661
Horowitz, Hugh H., and **King, C. G.** Glucuronic acid as a precursor of ascorbic acid in the albino rat, 815
Howton, David R. See *Mead, Steinberg, and Howton*, 683
Hurd, Mary. See *Luck, Kupke, Rhein, and Hurd*, 235
Hurwitz, Jerard. The enzymatic phosphorylation of pyridoxal, 935

I

Inamine, Edward. See *Stevens, Vohra, Inamine, and Roholt*, 1001
Izumiya, Nobuo, Fu, Shou-Cheng J., Birnbaum, Sanford M., and **Greenstein, Jesse P.** Optical enantiomorphs of tertiary leucine, 221

J

Jakoby, William B., and **Bonner, David M.** Kynureninase from *Neurospora:* interaction of enzyme with substrates, coenzyme, and amines, 709
— and —. Kynureninase from *Neurospora:* purification and properties, 699
Jerrel, Elizabeth A. See *Fraser and Jerrel*, 291
Johnson, W. J., and **Quastel, J. H.** A comparison of the effects of narcotics and of 2,4-dinitrophenol on sulfanilamide acetylation, 163

K

Kaplan, Nathan O., Colowick, Sidney P., and **Neufeld, Elizabeth F.** Pyridine nucleotide transhydrogenase. III. Animal tissue transhydrogenases, 1

Kaplan, Nathan O., Colowick, Sidney P., Neufeld, Elizabeth F., and **Ciotti, Margaret M.** Pyridine nucleotide transhydrogenase. IV. Effect of adenylic acid *a* on the bacterial transhydrogenases, 17

—, —, **Zatman, Leonard J.,** and **Ciotti, Margaret M.** Pyridine nucleotide transhydrogenase. V. Exchange reactions studied with C^{14}, 31

Katzenellenbogen, E. R. See *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner*, 87

Kennedy, Jean. See *Schayer, Kennedy, and Smiley*, 739

King, C. G. See *Horowitz and King*, 815

Kirkwood, S. See *Fawcett and Kirkwood*, 795

Kittinger, G. W., and **Reithel, F. J.** Lactose synthesis in mammary gland preparations, 527

Klein, J. Raymond. Inhibition of D-amino acid oxidase by aromatic acids, 725

Klenow, Hans. See *Horecker, Smyrniotis, and Klenow*, 661

Knight, C. A. See *Dorner and Knight*, 959

Koechlin, Bernard A., and **Parish, Harriet D.** The amino acid composition of a protein isolated from lobster nerve, 597

Koshland, D. E., Jr., and **Clarke, Edith.** Mechanism of hydrolysis of adenosinetriphosphate catalyzed by lobster muscle, 917

Krieger, C. H. See *Steenbock, Krieger, Wiest, and Pileggi*, 993

Kunkel, Henry G. See *Taylor, du Vigneaud, and Kunkel*, 45

Kupke, Donald W. See *Luck, Kupke, Rhein, and Hurd*, 235

L

La Du, Bert N., Jr. See *Appleton, La Du, Levy, Steele, and Brodie*, 803

Lajtha, Abel, Mela, Paula, and **Waelsch, Heinrich.** Manganese-dependent glutamotransferase, 553

Levy, Betty B. See *Appleton, La Du, Levy, Steele, and Brodie*, 803

Lieberman, Seymour, Katzenellenbogen, E. R., Schneider, R., Studer, P. E., and **Dobriner, Konrad.** Isolation of urinary steroids after cortisone and adrenocorticotropic hormone, 87

Linker, Alfred. See *Meyer, Linker, Davidson, and Weissmann*, 611

—. See *Weissmann, Rapport, Linker, and Meyer*, 205

Luck, J. Murray, Kupke, Donald W., Rhein, Alberta, and **Hurd, Mary.** Non-fibrous desoxypentose nucleohistone from liver. I. Preparation and composition, 235

— and **Wilcox, Alan.** On the determination of ethanolamine in urine and the factors affecting its daily output, 859

M

Machlin, L. J., Pearson, P. B., Denton, C. A., and **Bird, H. R.** The utilization of sulfate sulfur by the laying hen and its incorporation into cystine, 213

Magasanik, Boris. Enzymatic adaptation in the metabolism of cyclitols in *Aerobacter aerogenes*, 1007

—. The pathway of inositol dissimilation in *Aerobacter aerogenes*, 1019

Maley, Gladys Feldott, and **Plaut, G. W. E.** Yields of oxidative phosphorylation by heart mitochondria, 297

Marfey, S. P. See *Beher, Marfey, Anthony, and Gaebler*, 521

Marshak, Alfred. See *Fresco and Marshak*, 585

Marshall, Linda D. See *Geyer, Meadows, Marshall, and Gongaware*, 81

McIntosh, Nancy. See *Miller and Warren*, 331

Mead, James F., Steinberg, Gunther, and **Howton, David R.** Metabolism of essential fatty acids. Incorporation of acetate into arachidonic acid, 683

—. See *Zabin and Mead*, 271

Meadows, Mary F. See *Geyer, Meadows, Marshall, and Gongaware*, 81
Medes, Grace, Spirtes, Morris A., and Weinhouse, Sidney. The estimation of fatty acid synthesis in rat liver slices, 401
Mela, Paula. See *Lajtha, Mela, and Waelsch*, 553
Meyer, Karl, Linker, Alfred, Davidson, Eugene A., and Weissmann, Bernard. The mucopolysaccharides of bovine cornea, 611
—. See *Weissmann, Rapport, Linker, and Meyer*, 205
Miller, Irving L., and Adelberg, Edward A. The mechanism of kynureninase action, 691
Miller, Zelma, and Warren, Leonard. Studies on the metabolism of 4-amino-5-imidazolecarboxamide *in vitro*. I. Utilization by normal tissue preparations, 331
Mitchell, Herschel K. See *Tissieres, Mitchell, and Haskins*, 423
Mommaerts, W. F. H. M. See *Green, Brown, and Mommaerts*, 493

N

Neilands, J. B. An assay method for ferrichrome, 643
—. Factors affecting the microbial production of ferrichrome, 647
Neufeld, Elizabeth F. See *Kaplan, Colowick, and Neufeld*, 1
—. See *Kaplan, Colowick, Neufeld, and Ciotti*, 17
Neurath, Hans. See *Gladner and Neurath*, 345
Nichol, Charles A. See *Zakrzewski and Nichol*, 361

O

O'Kane, D. J. See *Wolfe and O'Kane*, 755
Orten, James M. See *Frohman and Orten*, 717

P

Parish, Harriet D. See *Koechlin and Parish*, 597
Park, C. R. See *Bornstein and Park*, 503
Paulson, Jack C., and Deatherage, Fred E. Studies on the mechanism of protein hydrolysis by ion exchange resin catalysis, 909
Pazur, John H. The hydrolysis of amylotriose and amylotetraose by salivary amylase, 75
Pearson, P. B. See *Machlin, Pearson, Denton, and Bird*, 213
Pileggi, Vincent J. See *Steenbock, Krieger, Wiest, and Pileggi*, 993
Pinchot, Gifford B. Phosphorylation coupled to electron transport in cell-free extracts of *Alcaligenes faecalis*, 65
Plaut, G. W. E. See *Maley and Plaut*, 297
Popenoe, Edwin A., and du Vigneaud, Vincent. Degradative studies on vasopressin and performic acid-oxidized vasopressin, 133
Porter, Vivian S., Deming, Nancy P., Wright, Rita C., and Scott, E. M. Effects of freezing on particulate enzymes of rat liver, 883
Potter, Van R., Siekevitz, Philip, and Simonson, Herbert C. Latent adenosinetriphosphatase activity in resting rat liver mitochondria, 893
—. See *Reif and Potter*, 279

Q

Quastel, J. H. See *Johnson and Quastel*, 163

R

Rapport, Maurice M. See *Weissmann, Rapport, Linker, and Meyer*, 205
Reif, Arnold E., and Potter, Van R. Studies on succinoxidase inhibition. I. Pseudoirreversible inhibition by a naphthoquinone and by antimycin A, 279
Reithel, F. J. See *Kittinger and Reithel*, 527
Ressler, Charlotte. See *du Vigneaud, Ressler, and Trippett*, 949

Rhein, Alberta. See *Luck, Kupke, Rhein, and Hurd,* 235
Roberts, Eugene. See *Bregoff, Roberts, and Delwiche,* 565
Roholt, Oliver A., Jr. See *Stevens, Vohra, Inamine, and Roholt,* 1001
Rosenberg, Lawson L., and **Clark, W. Mansfield.** Metalloporphyrins. VIII. Coordination of ferromesoporphyrin with proteins, 617
Rosenthal, N. R. See *Saroff, Rosenthal, Adamik, Hages, and Scheraga,* 255

S

Sandberg, Avery A. See *Bush and Sandberg,* 783
Saroff, H. A., Rosenthal, N. R., Adamik, E. R., Hages, N., and **Scheraga, H. A.** The methylation of bovine serum albumin, 255
Sax, Sylvan M. See *Hofmann and Sax,* 55
Schayer, Richard W., Kennedy, Jean, and **Smiley, Rosa L.** Studies on histamine-metabolizing enzymes in intact animals. II, 739
Schepartz, Bernard. Inhibition and activation of the oxidation of homogentisic acid, 185
Scheraga, H. A. See *Saroff, Rosenthal, Adamik, Hages, and Scheraga,* 255
Schjeide, Ole Arne, and **Deutsch, Lee.** Studies of the New Hampshire chicken embryo. II. Ultracentrifugal studies of the serum proteins, 245
Schneider, R. See *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner,* 87
Schwartz, Samuel. See *Edmondson and Schwartz,* 605
Scott, E. M. See *Porter, Deming, Wright, and Scott,* 883
Siekevitz, Philip. See *Potter, Siekevitz, and Simonson,* 893
Simonson, Herbert C. See *Potter, Siekevitz, and Simonson,* 893
Singer, S. J. See *Eggman, Singer, and Wildman,* 969
Skipper, Howard E. See *Wheeler and Skipper,* 749
Smiley, Rosa L. See *Schayer, Kennedy, and Smiley,* 739
Smith, Donald G., and **Young, E. Gordon.** On the nitrogenous constituents of *Fucus vesiculosus,* 849
Smyrniotis, P. Z. See *Horecker, Smyrniotis, and Klenow,* 661
Spirtes, Morris A. See *Medes, Spirtes, and Weinhouse,* 401
Steele, J. Murray. See *Appleton, La Du, Levy, Steele, and Brodie,* 803
Steenbock, Harry, and **Bellin, Stuart A.** Vitamin D and tissue citrate, 985
—, **Krieger, C. H., Wiest, W. G.,** and **Pileggi, Vincent J.** Vitamin D and intestinal phytase, 993
Steinberg, Gunther. See *Mead, Steinberg, and Howton,* 683
Stevens, Carl M., Vohra, Pran, Inamine, Edward, and **Roholt, Oliver A., Jr.** Utilization of sulfur compounds for the biosynthesis of penicillins, 1001
Studer, P. E. See *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner,* 87
Sumrell, Gene. See *Cason, Sumrell, Allen, Gillies, and Elberg,* 435

T

Talalay, Paul, and **Dobson, Marie Mollomo.** Purification and properties of a β-hydroxysteroid dehydrogenase, 823
Tauber, Henry. Oxidation of pyrogallol to purpurogallin by crystalline catalase, 395
Taylor, Anne. See *Fawcett and Kirkwood,* 795
Taylor, Sterling P., Jr., du Vigneaud, Vincent, and **Kunkel, Henry G.** Electrophoretic studies of oxytocin and vasopressin, 45
Tiberio, Frank. See *Bernstein,* 309

Tissieres, Alfred, Mitchell, Herschel K., and **Haskins, Francis A.** Studies on the respiratory system of the *poky* strain of *Neurospora*, 423

Treadwell, C. R. See *Byron, Wood, and Treadwell*, 483

Trippett, Stuart. See *du Vigneaud, Ressler, and Trippett*, 949

U

Umbarger, H. Edwin. See *Adelberg and Umbarger*, 475

Ungar, Frank, and **Dorfman, Ralph I.** Incorporation of C^{14} in the urinary steroids *in vivo*, 125

V

Van Baalen, Jessie, and **Gurin, Samuel.** Cofactor requirements for lipogenesis, 303

Vickery, Hubert Bradford. The behavior of the organic acids and starch of *Bryophyllum* leaves during culture in continuous light, 369

du Vigneaud, Vincent, Ressler, Charlotte, and **Trippett, Stuart.** The sequence of amino acids in oxytocin, with a proposal for the structure of oxytocin, 949

—. See *Popenoe and du Vigneaud*, 133

—. See *Taylor, du Vigneaud, and Kunkel*, 45

Villee, Claude A. The metabolism of human placenta *in vitro*, 113

— and **Hagerman, Dwain D.** Effects of estradiol on the metabolism of human placenta *in vitro*, 873

Vohra, Pran. See *Stevens, Vohra, Inamine, and Roholt*, 1001

Volkin, Elliot, and **Cohn, Waldo E.** On the structure of ribonucleic acids. II. The products of ribonuclease action, 767

W

Waelsch, Heinrich. See *Borek and Waelsch*, 459

Waelsch, Heinrich. See *Lajtha, Mela, and Waelsch*, 553

Warren, Leonard. See *Miller and Warren*, 331

Weinhouse, Sidney. See *Medes, Spirtes, and Weinhouse*, 401

—. See *Wenner, Dunn, and Weinhouse*, 409

Weiss, Benjamin. Peptidase and proteinase activity of beef thyroid tissue, 193

Weissmann, Bernard, Rapport, Maurice M., Linker, Alfred, and **Meyer, Karl.** Isolation of the aldobionic acid of umbilical cord hyaluronic acid, 205

—. See *Meyer, Linker, Davidson, and Weissmann*, 611

Wenner, Charles E., Dunn, Doris F., and **Weinhouse, Sidney.** A study of glucose oxidation in whole tissue homogenates, 409

Wheeler, Glynn P., and **Skipper, Howard E.** Incorporation of 2,6-diaminopurine into the nucleoside phosphates of the mouse, 749

Wiest, W. G. See *Steenbock, Krieger, Wiest, and Pileggi*, 993

Wilcox, Alan. See *Luck and Wilcox*, 859

Wildman, Sam G. See *Eggman, Singer, and Wildman*, 969

Wing, Richard E. See *Byerrum and Wing*, 637

Wolfe, R. S., and **O'Kane, D. J.** Cofactors of the phosphoroclastic reaction of *Clostridium butyricum*, 755

Wood, John L., and **Fiedler, Hildegard.** β-Mercaptopyruvate, a substrate for rhodanese, 231

Wood, W. A. See *Byron, Wood, and Treadwell*, 483

Wright, Rita C. See *Porter, Deming, Wright, and Scott*, 883

Y

Young, E. Gordon. See *Smith and Young*, 849

Z

Zabin, Irving, and **Barker, Wiley F.** The conversion of cholesterol and acetate to cholic acid, 633

— and **Mead, James F.** The biosynthesis of sphingosine. I. The utilization of carboxyl-labeled acetate, 271

Zakrzewski, Sigmund F., and **Nichol, Charles A.** The separation and determination of pteroylglutamic acid and related compounds, 361

Zatman, Leonard J. See *Kaplan, Colowick, Zatman, and Ciotti,* 31

Zilversmit, D. B. See *DiLuzio and Zilversmit,* 867

INDEX TO SUBJECTS

A

Acetate: Carboxyl-labeled, sphingosine biosynthesis, use, *Zabin and Mead*, 271
Cholic acid from, *Zabin and Barker*, 633
Incorporation into arachidonic acid, *Mead, Steinberg, and Howton*, 683
Acetoacetate: Liver fatty acids from, insulin administration and nutritional state, rôle, *Chen, Chapman, and Chaikoff*, 383
Acetylpyridine: 3-, metabolism *in vitro*, *Beher, Marfey, Anthony, and Gaebler*, 521
Adenosinetriphosphatase: Liver mitochondria, *Potter, Siekevitz, and Simonson*, 893
Muscle, *Green, Brown, and Mommaerts*, 493
Adenosinetriphosphate: Hydrolysis, lobster muscle effect, *Koshland and Clarke*, 917
Adenylic acid: *a*, bacterial transhydrogenase, effect, *Kaplan, Colowick, Neufeld, and Ciotti*, 17
Adrenocortical hormone: Blood plasma, *Bush and Sandberg*, 783
Adrenocorticotropic hormone: Urine steroids, isolation, effect, *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner*, 87
Aerobacter aerogenes: Cyclitols, metabolism, enzymatic adaptation, *Magasanik*, 1007
Inositol dissimilation, pathway, *Magasanik*, 1019
Albumin: Blood serum, methylation, *Saroff, Rosenthal, Adamik, Hages, and Scheraga*, 255
Alcaligenes faecalis: Cell-free extracts, phosphorylation coupled to electron transport, *Pinchot*, 65
Aldobionic acid: Umbilical cord hyaluronic acid, isolation, *Weissmann, Rapport, Linker, and Meyer*, 205
Amine(s): *Neurospora* kynureninase, interaction, *Jakoby and Bonner*, 709
Amino acid(s): Bacteriophage T3, *Fraser and Jerrel*, 291
Oxytocin, chemical structure, relation, *du Vigneaud, Ressler, and Trippett*, 949
Amino acid oxidase: D-, aromatic acids, effect, *Klein*, 725
Amino-5-imidazolecarboxamide: 4-, metabolism, *in vitro*, *Miller and Warren*, 331
—, utilization, *in vitro*, *Miller and Warren*, 331
Ammonium: Bases, quaternary, related compounds and, chromatography, paper, *Bregoff, Roberts, and Delwiche*, 565
Amylase: Saliva, amylotriose and amylotetraose hydrolysis, *Pazur*, 75
Amylotetraose: Hydrolysis, saliva amylase, *Pazur*, 75
Amylotriose: Hydrolysis, saliva amylase, *Pazur*, 75
Antimetabolite(s): *Beher, Marfey, Anthony, and Gaebler*, 521
Antimycin: A, succinoxidase, effect, *Reif and Potter*, 279
Arachidonic acid: Acetate incorporation into, *Mead, Steinberg, and Howton*, 683
Aromatic acid(s): D-Amino acid oxidase, effect, *Klein*, 725
Ascorbic acid: Glucuronic acid as precursor, *Horowitz and King*, 815

B

Bacillus: Tubercle. *See* Tubercle bacillus
See also Lactobacillus
Bacteria: Transhydrogenase, adenylic acid *a* effect, *Kaplan, Colowick, Neufeld, and Ciotti*, 17
See also Aerobacter, Alcaligenes, Clostridium, Escherichia

Bacteriophage: T3, amino acids, *Fraser and Jerrel*, 291
Blood: Peptidases, *Fleisher*, 925
Blood plasma: Adrenocortical hormones, *Bush and Sandberg*, 783
Choline, free, determination, chemical, *Appleton, La Du, Levy, Steele, and Brodie*, 803
Blood serum: Albumin, methylation, *Saroff, Rosenthal, Adamik, Hages, and Scheraga*, 255
Diabetes, glucose utilization, effect, *Bornstein and Park*, 503
Glycylglycine hydrolysis, effect, *Fleisher*, 925
Glycyl-L-leucine hydrolysis, effect, *Fleisher*, 925
Lipoproteins, glucose utilization, insulin effect, *Bornstein*, 513
Proteins, chicken, ultracentrifugal studies, *Schjeide and Deutsch*, 245
Bryophyllum: Leaves, organic acids and starch, light effect, *Vickery*, 369

C

Carboxyl group(s): Enzymes, proteolytic, *Gladner and Neurath*, 345
Carboxylic acid(s): Poly-. *See* Polycarboxylic acid
Catalase: Crystalline, pyrogallol oxidation to purpurogallin, effect, *Tauber*, 395
Chick: Ribose synthesis, *Bernstein*, 317
Chicken: Embryo, *Schjeide and Deutsch*, 245
—, blood serum proteins, ultracentrifugal studies, *Schjeide and Deutsch*, 245
Cholesterol: Cholic acid from, *Zabin and Barker*, 633
Esterases, *Byron, Wood, and Treadwell*, 483
—, liver, *Byron, Wood, and Treadwell*, 483
Cholic acid: Acetate conversion to, *Zabin and Barker*, 633
Cholesterol conversion to, *Zabin and Barker*, 633
Choline: Free, blood plasma, determination, chemical, *Appleton, La Du, Levy, Steele, and Brodie*, 803
Liver fatty acid oxidation, rôle, *Artom*, 101
Nicotiana rustica metabolism, effect, *Byerrum and Wing*, 637
Phospholipide synthesis *in vitro*, liver, effect, *DiLuzio and Zilversmit*, 867
Chymotrypsin: α-, chymotrypsinogen activation, *Gladner and Neurath*, 345
Chymotrypsinogen: α, chromatography, *Hirs*, 93
α-Chymotrypsin from, *Gladner and Neurath*, 345
Citrate: Tissue, vitamin D, relation, *Steenbock and Bellin*, 985
Clostridium butyricum: Phosphoroclastic reaction, cofactors, *Wolfe and O'Kane*, 755
Coenzyme: A, β-ketoacyl derivatives, *Beinert*, 575
Neurospora kynureninase, interaction, *Jakoby and Bonner*, 709
Cornea: Mucopolysaccharides, *Meyer, Linker, Davidson, and Weissmann*, 611
Cortisone: Urine steroids, isolation, effect, *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner*, 87
Cyclitol(s): *Aerobacter aerogenes*, metabolism, enzymatic adaptation, *Magasanik*, 1007
Cystine: Sulfate sulfur incorporation, hen, *Machlin, Pearson, Denton, and Bird*, 213

D

Decenoic acid: L(+)-2,4-Dimethyl-2-do-. *See* Dimethyl-2-dodecenoic acid
Dehydrogenase: β-Hydroxysteroid. *See* Hydroxysteroid dehydrogenase
Desoxypentose nucleohistone: Liver, *Luck, Kupke, Rhein, and Hurd*, 235

Desoxypentose nucleohistone—*continued:*
Liver, preparation and composition, *Luck, Kupke, Rhein, and Hurd*, 235
Diabetes: Glucose utilization, blood serum, effect, *Bornstein and Park*, 503
Diaminopurine: 2,6-, incorporation into nucleoside phosphates, *Wheeler and Skipper*, 749
Dimethyl-2-dodecenoic acid: L(+)-2,4-, synthesis and properties, *Cason and Allen*, 449
Dinitrophenol: 2,4-, sulfanilamide acetylation, effect, *Johnson and Quastel*, 163

E

Electron: Transport, phosphorylation and, *Alcaligenes faecalis* cell-free extracts, *Pinchot*, 65
Embryo: Chicken, *Schjeide and Deutsch*, 245
—, blood serum proteins, ultracentrifugal studies, *Schjeide and Deutsch*, 245
Enzyme(s): Activity, determination, *Bodansky*, 731
Aerobacter aerogenes cyclitols, metabolism, effect, *Magasanik*, 1007
Co-. *See* Coenzyme
Histamine-metabolizing, *Schayer, Kennedy, and Smiley*, 739
Histidine degradation, *Borek and Waelsch*, 459
Liver, freezing effect, *Porter, Deming, Wright, and Scott*, 883
Proteolytic, carboxyl groups, *Gladner and Neurath*, 345
Pyridoxal phosphorylation, *Hurwitz*, 935
See also Adenosinetriphosphatase, Amylase, etc.
Escherichia coli: Isoleucine metabolism, *Adelberg and Umbarger*, 475
α-Ketovaleric acid accumulation, *Adelberg and Umbarger*, 475
Valine metabolism, *Adelberg and Umbarger*, 475
Esterase: Cholesterol, *Byron, Wood, and Treadwell*, 483
—, liver, *Byron, Wood, and Treadwell*, 483
Estradiol: Placenta metabolism *in vitro*, effect, *Villee and Hagerman*, 873
Ethanolamine: Urine, determination, *Luck and Wilcox*, 859
—, factors affecting, *Luck and Wilcox*, 859

F

Fatty acid(s): Essential, metabolism, *Mead, Steinberg, and Howton*, 683
Lactobacillus casei, chemical nature, *Hofmann and Sax*, 55
Liver, acetoacetate conversion from, insulin administration and nutritional state, rôle, *Chen, Chapman, and Chaikoff*, 383
—, oxidation, choline rôle, *Artom*, 101
Metabolism, sodium, potassium, and lithium, effect, *Geyer, Meadows, Marshall, and Gongaware*, 81
Oxidizing system, *Beinert*, 575
Synthesis, liver, determination, *Medes, Spirtes, and Weinhouse*, 401
Tubercle bacillus lipides, *Cason, Sumrell, Allen, Gillies, and Elberg*, 435
Ferrichrome: Determination, *Neilands*, 643
Microbial production, *Neilands*, 647
Ferromesoporphyrin: Proteins and, coordination, *Rosenberg and Clark*, 617
Folic acid: *See also* Pteroylglutamic acid
Formate: Liver, utilization, *Berg*, 145
Freezing: Liver enzymes, effect, *Porter, Deming, Wright, and Scott*, 883
Fucus vesiculosus: Nitrogenous constituents, *Smith and Young*, 849

G

Glucose: Oxidation, tissue homogenates, *Wenner, Dunn, and Weinhouse*, 409
Utilization, blood serum lipoproteins, insulin effect, *Bornstein*, 513

Glucose—*continued:*
Utilization, diabetes, blood serum, effect, *Bornstein and Park*, 503
Glucuronic acid: Ascorbic acid precursor, *Horowitz and King*, 815
Glutamic acid: Pteroyl-. *See* Pteroylglutamic acid
Glutamotransferase: Manganese-dependent, *Lajtha, Mela, and Waelsch*, 553
Glycine: Glycyl-. *See* Glycylglycine
Glycolysis: Spleen, Roentgen ray effect, *Hickman and Ashwell*, 651
Glycylglycine: Hydrolysis, blood serum effect, *Fleisher*, 925
Glycyl-L-leucine: Hydrolysis, blood serum effect, *Fleisher*, 925

H

Heart: Mitochondria, oxidative phosphorylation yield, *Maley and Plaut*, 297
Histamine: -Metabolizing enzymes, *Schayer, Kennedy, and Smiley*, 739
Histidine: Degradation, enzymatic, *Borek and Waelsch*, 459
Homogentisic acid: Oxidation, *Schepartz*, 185
Hyaluronic acid: Umbilical cord, aldobionic acid isolation, *Weissmann, Rapport, Linker, and Meyer*, 205
Hydroxysteroid dehydrogenase: β-, purification and properties, *Talalay and Dobson*, 823

I

Inositol: *Aerobacter aerogenes*, dissimilation pathway, *Magasanik*, 1019
Insulin: Acetoacetate conversion to liver fatty acids, rôle, *Chen, Chapman, and Chaikoff*, 383
Blood serum lipoproteins, glucose utilization, effect, *Bornstein*, 513
Intestine: Phytase, vitamin D, relation, *Steenbock, Krieger, Wiest, and Pileggi*, 993
Iodine: Organically bound, synthesis, thyroid, *Fawcett and Kirkwood*, 795
Ion exchange: Resin catalysis, protein hydrolysis mechanism, *Paulson and Deatherage*, 909
Isoleucine: Metabolism, *Escherichia coli, Adelberg and Umbarger*, 475

K

Ketoisovaleric acid: α-, accumulation, *Escherichia coli, Adelberg and Umbarger*, 475
Kynureninase: Action, mechanism, *Miller and Adelberg*, 691
Neurospora, purification and properties, *Jakoby and Bonner*, 699
—, substrates, coenzymes, and amines, interaction, *Jakoby and Bonner*, 709

L

Lactobacillus casei: Fatty acids, chemical nature, *Hofmann and Sax*, 55
Lactobacillus pentosus: Ribose-C^{14} fermentation, *Bernstein*, 309
Lactose: Synthesis *in vitro*, mammary gland effect, *Kittinger and Reithel*, 527
Leaf: Green, protein, *Eggman, Singer, and Wildman*, 969
Leucine: Glycyl-L-. *See* Glycyl-L-leucine
Iso-. *See* Isoleucine
Tertiary, enantiomorphs, *Izumiya, Fu, Birnbaum, and Greenstein*, 221
Lipide(s): Tubercle bacillus, fatty acids, *Cason, Sumrell, Allen, Gillies, and Elberg*, 435
Lipogenesis: Cofactor requirements, *Van Baalen and Gurin*, 303
Lipoprotein(s): Blood serum, glucose utilization, insulin effect, *Bornstein*, 513
Lithium: Fatty acid metabolism, effect, *Geyer, Meadows, Marshall, and Gongaware*, 81
Liver: Cholesterol esterase, *Byron, Wood, and Treadwell*, 483

Liver—*continued:*
Desoxypentose nucleohistone, *Luck, Kupke, Rhein, and Hurd,* 235
— —, preparation and composition, *Luck, Kupke, Rhein, and Hurd,* 235
Enzymes, freezing effect, *Porter, Deming, Wright, and Scott,* 883
Fatty acid synthesis, determination, *Medes, Spirtes, and Weinhouse,* 401
— acids, acetoacetate conversion from, insulin administration and nutritional state, rôle, *Chen, Chapman, and Chaikoff,* 383
— —, oxidation, choline rôle, *Artom,* 101
Formate utilization, *Berg,* 145
Mitochondria, adenosinetriphosphatase, *Potter, Siekevitz, and Simonson,* 893
Nucleic acids, biosynthesis, *Fresco and Marshak,* 585
Phospholipide synthesis *in vitro*, choline effect, *DiLuzio and Zilversmit,* 867
Lobster: Muscle, adenosinetriphosphate hydrolysis, effect, *Koshland and Clarke,* 917
Nerve, protein amino acids, *Koechlin and Parish,* 597

M

Mammary gland: Lactose synthesis, *in vitro*, effect, *Kittinger and Reithel,* 527
Manganese: -Dependent glutamotransferase, *Lajtha, Mela, and Waelsch,* 553
Mercaptopyruvate: β-, rhodanese substrate, *Wood and Fiedler,* 231
Metalloporphyrin(s): *Rosenberg and Clark,* 617
Mitochondrium: Heart, oxidative phosphorylation yield, *Maley and Plaut,* 297
Liver, adenosinetriphosphatase, *Potter, Siekevitz, and Simonson,* 893
Mold: *See also Neurospora*
Mucopolysaccharide: Cornea, *Meyer, Linker, Davidson, and Weissmann,* 611
Muscle: Adenosinetriphosphatase, *Green, Brown, and Mommaerts,* 493
Lobster, adenosinetriphosphate hydrolysis, effect, *Koshland and Clarke,* 917
See also Heart

N

Naphthoquinone: Succinoxidase, effect, *Reif and Potter,* 279
Narcotic(s): Sulfanilamide acetylation, effect, *Johnson and Quastel,* 163
Nerve: Lobster, protein amino acids, *Koechlin and Parish,* 597
Neurospora: Kynureninase, purification and properties, *Jakoby and Bonner,* 699
—, substrates, coenzyme, and amines, interaction, *Jakoby and Bonner,* 709
Poky strain, respiration, *Tissieres, Mitchell, and Haskins,* 423
Nicotiana rustica: Metabolism, choline effect, *Byerrum and Wing,* 637
Nitrogenous constituent(s): *Fucus vesiculosus, Smith and Young,* 849
Nuclease: Ribo-. *See* Ribonuclease
Nucleic acid(s): Biosynthesis, liver, *Fresco and Marshak,* 585
Plant virus, preparation and properties, *Dorner and Knight,* 959
Ribo-. *See* Ribonucleic acid
Nucleohistone: Desoxypentose. *See* Desoxypentose nucleohistone
Nucleoprotein: Cytoplasmic, spinach and tobacco leaves, *Eggman, Singer, and Wildman,* 969
Nucleoside phosphate(s): 2,6-Diaminopurine incorporation into, *Wheeler and Skipper,* 749
Nutrition: Acetoacetate conversion to liver fatty acids, rôle, *Chen, Chapman, and Chaikoff,* 383

O

Organic acid(s): *Bryophyllum* leaves, light effect, *Vickery,* 369

Oxidase: D-Amino acid. *See* Amino acid oxidase
Succinic. *See* Succinoxidase
Oxytocin: Amino acid sequence, chemical constitution, relation, *du Vigneaud, Ressler, and Trippett*, 949
Chemical constitution, *du Vigneaud, Ressler, and Trippett*, 949
Electrophoresis, *Taylor, du Vigneaud, and Kunkel*, 45

P

Penicillin: Biosynthesis, sulfur compounds, utilization, *Stevens, Vohra, Inamine, and Roholt*, 1001
Pentose phosphate: Sedoheptulose phosphate from, *Horecker, Smyrniotis, and Klenow*, 661
Peptidase(s): Blood, *Fleisher*, 925
Thyroid, *Weiss*, 193
Phenol: 2,4-Dinitro-. *See* Dinitrophenol
Phenylalanine: D-, utilization, *Armstrong*, 839
L-, utilization, *Armstrong*, 839
Phosphatase: Adenosinetri-. *See* Adenosinetriphosphatase
Phosphate: Adenosinetri-. *See* Adenosinetriphosphate
Phospholipide(s): Liver, synthesis *in vitro*, choline effect, *DiLuzio and Zilversmit*, 867
Phosphoroclastic reaction: *Clostridium butyricum*, cofactors, *Wolfe and O'Kane*, 755
Phosphorylation: Electron transport and, *Alcaligenes faecalis* cell-free extracts, *Pinchot*, 65
Oxidative, heart mitochondria, yield, *Maley and Plaut*, 297
Phytase: Intestine, vitamin D, relation, *Steenbock, Krieger, Wiest, and Pileggi*, 993
Placenta: Metabolism *in vitro*, *Villee*, 113
— — —, estradiol effect, *Villee and Hagerman*, 873
Plant: Virus, nucleic acid, preparation and properties, *Dorner and Knight*, 959
Polycarboxylic acid(s): Determination, fluorometric, *Frohman and Orten*, 717
Polysaccharide: Muco-. *See* Mucopolysaccharide
Porphyrin: Ferromeso-. *See* Ferromesoporphyrin
Metallo-. *See* Metalloporphyrin
Uro-. *See* Uroporphyrin
Potassium: Fatty acid metabolism, effect, *Geyer, Meadows, Marshall, and Gongaware*, 81
Protein(s): Chicken, blood serum, *Schjeide and Deutsch*, 245
Ferromesoporphyrin and, coordination, *Rosenberg and Clark*, 617
Hydrolysis, ion exchange resin catalysis, mechanism, *Paulson and Deatherage*, 909
Leaf, green, *Eggman, Singer, and Wildman*, 969
Lipo-. *See* Lipoprotein
Lobster nerve, amino acids, *Koechlin and Parish*, 597
Nucleo-. *See* Nucleoprotein
Proteinase: Thyroid, *Weiss*, 193
Proteolysis: Enzymes, carboxyl groups, *Gladner and Neurath*, 345
Pteroylglutamic acid: *Zakrzewski and Nichol*, 361
Determination and separation, *Zakrzewski and Nichol*, 361
-Related compounds, determination and separation, *Zakrzewski and Nichol*, 361
Purine: 2,6-Diamino-. *See* Diaminopurine
Purpurogallin: Pyrogallol oxidation to, catalase effect, *Tauber*, 395
Pyridine: 3-Acetyl-. *See* Acetylpyridine
Pyridine nucleotide transhydrogenase: *Kaplan, Colowick, and Neufeld*, 1
Kaplan, Colowick, Neufeld, and Ciotti, 17
Kaplan, Colowick, Zatman, and Ciotti, 31
Exchange reaction, carbon 14 in study, *Kaplan, Colowick, Zatman, and Ciotti*, 31

Pyridoxal: Phosphorylation, enzymatic, *Hurwitz*, 935
Pyrogallol: Oxidation to purpurogallin, catalase effect, *Tauber*, 395
Pyruvate: β-Mercapto-. *See* Mercaptopyruvate

R

Resin: Ion exchange, catalysis, protein hydrolysis mechanism, *Paulson and Deatherage*, 909
Rhodanese: β-Mercaptopyruvate substrate, *Wood and Fiedler*, 231
Ribonuclease: Ribonucleic acids, effect, *Volkin and Cohn*, 767
Ribonucleic acid(s): Chemical constitution, *Volkin and Cohn*, 767
Ribose: Carbon 14-labeled, fermentation, *Lactobacillus pentosus*, *Bernstein*, 309
Synthesis, chick, *Bernstein*, 317

S

Saliva: Amylase, amylotriose and amylotetraose hydrolysis, *Pazur*, 75
Sea weed: *See also Fucus*
Sedoheptulose phosphate: Pentose phosphate conversion to, *Horecker, Smyrniotis, and Klenow*, 661
Sodium: Fatty acid metabolism, effect, *Geyer, Meadows, Marshall, and Gongaware*, 81
Sphingosine: Biosynthesis, *Zabin and Mead*, 271
—, carboxyl-labeled acetate, use, *Zabin and Mead*, 271
Spinach: Leaf, nucleoprotein, cytoplasmic, *Eggman, Singer, and Wildman*, 969
Spleen: Glycolysis, Roentgen ray effect, *Hickman and Ashwell*, 651
Starch: *Bryophyllum* leaves, light effect, *Vickery*, 369
Steroid(s): Carbons 21 and 19, separation, chromatography, paper, *Axelrod*, 173
Urine, carbon 14 incorporation, *in vivo*, *Ungar and Dorfman*, 125
Steroid(s)—*continued:*
Urine, isolation, cortisone and adrenocorticotropic hormone administration, effect, *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner*, 87
Succinoxidase: Antimycin A effect, *Reif and Potter*, 279
Inhibition, *Reif and Potter*, 279
Naphthoquinone effect, *Reif and Potter*, 279
Sulfanilamide: Acetylation, narcotics and 2,4-dinitrophenol, effect, *Johnson and Quastel*, 163
Sulfur: Compounds, penicillin biosynthesis, utilization, *Stevens, Vohra, Inamine, and Roholt*, 1001
Sulfate, incorporation into cystine, hen, *Machlin, Pearson, Denton, and Bird*, 213
—, utilization, hen, *Machlin, Pearson, Denton, and Bird*, 213

T

Thyroid: Iodine, bound, synthesis, *Fawcett and Kirkwood*, 795
Peptidase, *Weiss*, 193
Proteinase, *Weiss*, 193
Tobacco: Leaf, nucleoprotein, cytoplasmic, *Eggman, Singer, and Wildman*, 969
See also Nicotiana
Transferase: Glutamo-. *See* Glutamotransferase
Transhydrogenase: Bacteria, adenylic acid *a* effect, *Kaplan, Colowick, Neufeld, and Ciotti*, 17
Pyridine nucleotide. *See* Pyridine nucleotide transhydrogenase
Trypsin: α-Chymo-. *See* Chymotrypsin
Inhibitors, *Green*, 535
Trypsinogen: Chymo-. *See* Chymotrypsinogen
Tubercle bacillus: Lipides, fatty acids, *Cason, Sumrell, Allen, Gillies, and Elberg*, 435

U

Umbilical cord: Hyaluronic acid, aldobionic acid isolation, *Weissmann, Rapport, Linker, and Meyer*, 205

Urine: Ethanolamine, determination, *Luck and Wilcox*, 859
—, factors affecting, *Luck and Wilcox*, 859
Steroids, carbon 14 incorporation, *in vivo*, *Ungar and Dorfman*, 125
—, isolation, cortisone and adrenocorticotropic hormone administration, effect, *Lieberman, Katzenellenbogen, Schneider, Studer, and Dobriner*, 87
Uroporphyrin(s): *Edmondson and Schwartz*, 605
Decarboxylation, *Edmondson and Schwartz*, 605

V

Valeric acid: α-Ketoiso-. *See* Ketoisovaleric acid
Valine: Metabolism, *Escherichia coli*, *Adelberg and Umbarger*, 475
Vasopressin: Degradation, *Popenoe and du Vigneaud*, 133
Electrophoresis, *Taylor, du Vigneaud, and Kunkel*, 45
Performic acid-oxidized, degradation, *Popenoe and du Vigneaud*, 133
Virus: Plant, nucleic acid, preparation and properties, *Dorner and Knight*, 959
See also Bacteriophage
Vitamin(s): C. *See also* Ascorbic acid
D, phytase, intestine, relation, *Steenbock, Krieger, Wiest, and Pileggi*, 993
—, tissue citrate, relation, *Steenbock and Bellin*, 985